18–28, was the the severest storm of the month in the lower latitudes of the Far East. It originated east of Samar, and on the 20th and 21st, moving almost due north, crossed Luzon, barely missing Manila. The lowest pressure obtained in the Philippines was 28.80 inches, at Daet, and the highest wind force, 12, from southwest, in Legaspi Bay. The storm was attended by heavy rains. A little south of 30° N. the typhoon track turned northeastward, skirted the western coast line of Japan, and the center then moved rapidly on past Sakhalin Island.

(The report does not mention among the typhoons of the month the very severe cyclone which occurred south and east of Japan from the 8th to 11th.)

Typhoons of October.—Four severe typhoons occurred in October, 1931. The storm of October 5–14 originated south-southwest of Guam, moved northwest, recurved to the northeast, and after crossing central Japan, proceeded into the open sea. "Press dispatches from Tokyo reported torrential rains and terrific winds associated with loss in life in central and western Japan. The typhoon was considered one of the worst to hit Japan in years."

The China Sea typhoon of October 9–11, which was of known hurricane force on the 10th south of Hong Kong, passed almost due west into Indo-China.

The so-called *Taurus* typhoon of October 13–20 originated between Guam and Yap. "Yet," said Father Selga, "no accurate idea of the extent and severity of the typhoon could be formed until the steamer *Taurus*, anchored at port San Vincente, reported a barometric reading of 731 millimeters (28.78 inches) and WSW. winds of force 12 at noon on October 18." The lowest barometer experienced by the *Taurus*, 28.69 inches, occurred a half hour later. The typhoon was then passing western Luzon. It headed into the China Sea, where it disintegrated on the 20th. The accompanying rainfall over northern Luzon was very heavy on the 18th. The total fall in Aparri was nearly 10 inches and gave rise to the severest flood in that region since 1908.

The typhoon of October 20–27 was first indicated as a depression south of Guam. Going northwestward, the storm gathered energy and by the 24th, when about midway between the Philippine and Bonin Islands, it began to recurve into the northeast, attaining hurricane strength for an approximate distance of 100 miles outward from the center. Here it was encountered by the M. S. *Irisbank*, which experienced winds of force 8 to 12 for 44 hours. Near the Bonins (Ogasawara) on the 26th the S. S. *Yoro Maru* was reported in distress and later to have gone ashore on one of the small islands. The *Silverhazel* proceeded to her assistance, but in 29° 25′ N., 143° 20′ E., was forced to heave to in a northwest hurricane (force 12) and in consequence had to abandon her quest. The typhoon was lost to observation on the 27th far to the eastward of Japan.—*W. E. H.*

BUCKET OBSERVATIONS OF SEA-SURFACE TEMPERATURES

By GILES SLOCUM

STRAITS OF FLORIDA AND CARIBBEAN SEA

Table 1 shows the average temperatures for the Caribbean Sea and the Straits of Florida for November of each year from 1919 to 1930, inclusive, and Table 2 summarizes the temperature for November, 1930, in the same areas. The chart shows the number of observations taken in November, 1930, within each 1-degree square and mean temperature data for subdivisions of the area considered.

The surface water of the Caribbean Sea is warmer than the yearly mean throughout November, but autumn conditions are well established by the beginning of the month, and the temperature drop is pronounced thereafter until the end of the year and beyond. Of an annual range in temperature of approximately four and a half degrees, nearly a third of the drop from the peak in September to the minimum in March occurs in November and another third in December.

This temperature drop in the Caribbean is slightly greater in December than in November, but in the Straits the most rapid drop during the year is in November.

November, 1930, was the ninth consecutive month having above-average temperature in the Caribbean Sea, being warmer than the 11-year mean except during the first quarter when the temperature was seasonable. The fall in temperature, as the month progressed, was slower than is usual at this season, and at variance with the relatively rapid normal fall in mean temperature described above.

The Straits of Florida were unseasonably cool during the first half of the month and slightly warmer than the 11-year mean during the second half, the month as a whole being cooler than the average.

TABLE 1.—*Mean sea-surface temperatures in the Caribbean Sea and the Straits of Florida for November, 1919–1930*

Year	Carribbean Sea		Straits of Florida	
	Number of observations	Mean (° F.)	Number of observations	Mean (° F.)
1919 [1]	97	81.2	18	79.3
1920	146	81.5	47	78.2
1921	233	80.8	74	79.1
1922	205	81.8	78	79.6
1923	289	81.3	95	77.0
1924	259	81.7	91	77.2
1925	340	81.8	95	80.2
1926	259	82.3	127	78.5
1927	510	82.4	147	79.2
1928	539	81.8	140	79.3
1929	565	81.4	191	79.2
1930	550	82.0	129	78.2
Mean (1920–1930)		81.7		78.7

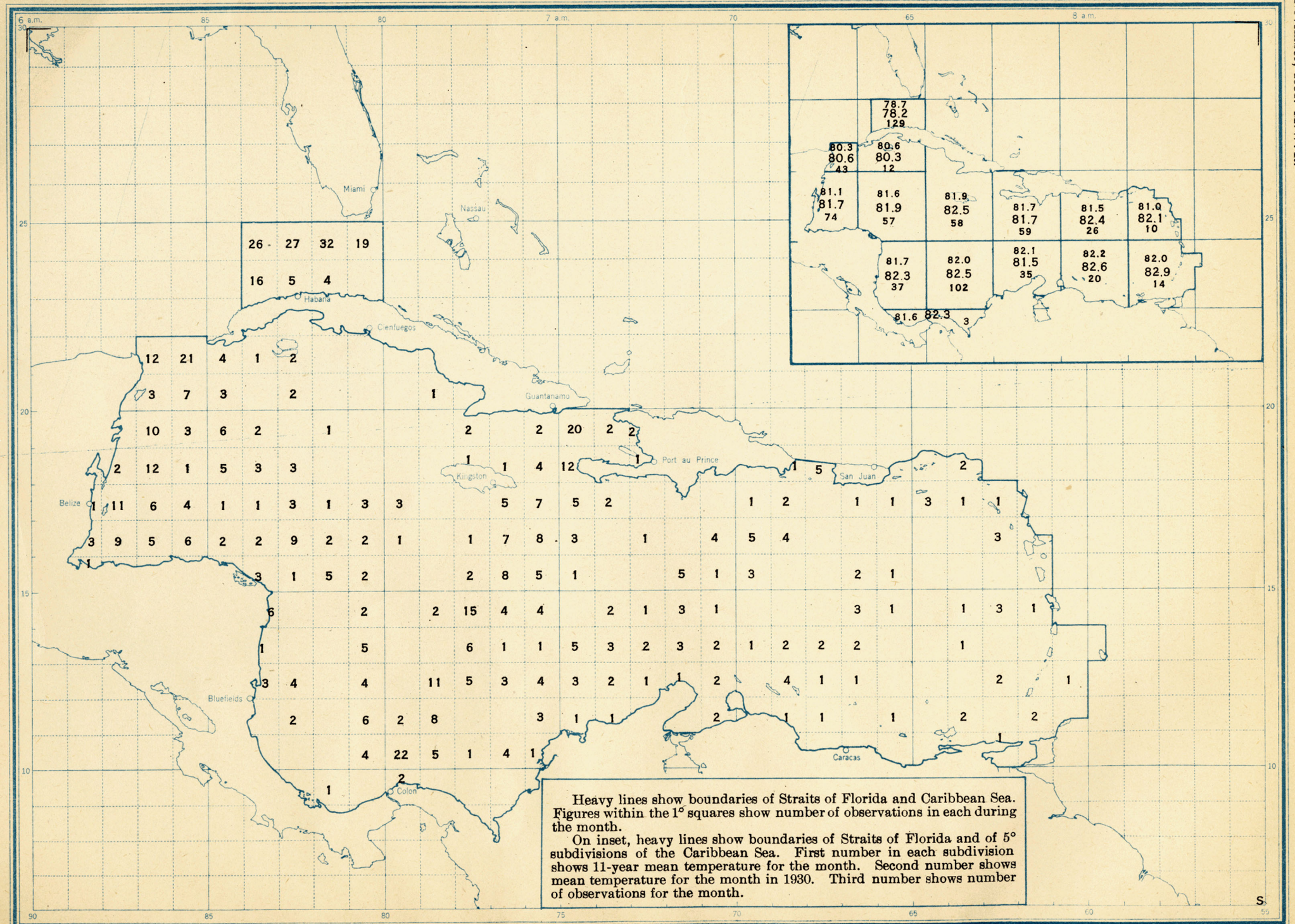
[1] Not used in computations because of insufficient data available.

TABLE 2.—*Mean sea-surface temperatures (°F.,) and number of observations, November, 1930*

Quarter	Period	Caribbean Sea				Straits of Florida			
		Number of observations	Mean	Departure from 11-year mean (1920–1930)	Change from preceding month	Number of observations	Mean	Departure from 11-year mean (1920–1930)	Change from preceding month
			° F.	° F.	° F.		° F.	° F.	° F.
I	Nov. 1–7	136	82.1			34	77.8		
II	Nov. 8–15	135	82.1			40	78.4		
III	Nov. 16–22	132	81.9			23	78.6		
IV	Nov. 23–30	147	81.8			32	77.8		
	Month	550	82.0	+0.3	−0.9	129	78.2	−0.5	−3.0

Distribution of Greenwich Mean Noon Bucket Observations of Sea-Surface Temperatures, November, 1930

(Plotted by Giles Slocum)



Heavy lines show boundaries of Straits of Florida and Caribbean Sea. Figures within the 1° squares show number of observations in each during the month.

On inset, heavy lines show boundaries of Straits of Florida and of 5° subdivisions of the Caribbean Sea. First number in each subdivision shows 11-year mean temperature for the month. Second number shows mean temperature for the month in 1930. Third number shows number of observations for the month.